

WHAT IS CLAIMED IS:

1 1. A filter assembly comprising:
 2 a primarily radial flow filter element comprising a substantially prismatic or cylindrical
 3 body of filtering material having a first end through which filtered water flows, and a second
 4 end opposite said first end;
 5 a substantially tubular siphon shield having cross-sectional interior dimensions
 6 greater than the exterior cross sectional dimensions of said filter element;
 7 a mounting element which mounts said siphon shield around said filter element so
 8 that there is a siphon space between said filter element and said siphon shield; and
 9 said siphon space cooperating with said siphon shield to significantly reduce the
 10 amount of air radially flowing through said filter element with water when parts of said filter
 11 element are uncovered by water.

1 2. A filter assembly as recited in claim 1 wherein said filter element first end is
 2 operatively connected to a cap for closing the open end of a bottle, said cap having a
 3 manual valve associated therewith; and wherein said mounting element mounts said
 4 siphon shield adjacent said second end of said filter element so that water can
 5 substantially only flow into said siphon space from adjacent said first end of said filter
 6 element, and wherein said siphon space is readily accessible to water adjacent said cap.

1 3. A filter assembly as recited in claim 2 wherein said mounting element comprises
 2 a mounting ring, and wherein said siphon space is substantially annular.

1 4. A filter assembly as recited in claim 3 wherein said substantially annular siphon
 2 space extends at least about 80% of the length of said filter element from said first end to
 3 said second end thereof.

1 5. A filter assembly as recited in claim 1 wherein said siphon shield comprises a
 2 substantially circular cross-section substantially solid wall plastic tube, and wherein said

consists essentially of

3 filter element is substantially cylindrical; and wherein said siphon space is substantially
4 annular and has substantially uniform dimensions.

1 6. A filter assembly as recited in claim 1 wherein said filter element first end is
2 operatively connected to a drinking straw; and wherein said mounting element mounts said
3 siphon shield adjacent said first end of said filter element so that water can substantially
4 only flow into said siphon space from adjacent said second end of said filter element, and
5 wherein said siphon space is readily accessible to water adjacent a bottom of a bottle in
6 which said filter element and a portion of said drinking straw are disposed.

1 7. A filter assembly as recited in claim 6 wherein said filter element extends axially
2 outwardly from said siphon shield adjacent said second end of said siphon filter element.

1 8. A filter assembly as recited in claim 6 wherein said mounting element comprises
2 a mounting ring, and wherein said siphon space is substantially annular.

1 9. A filter assembly as recited in claim 8 wherein said substantially annular siphon
2 space extends at least about 80% of the length of said filter element from said first end to
3 said second end thereof.

1 10. A filter assembly as recited in claim 1 wherein said filter element comprises a
2 hollow substantially continuous self-supporting, self-venting body of activated carbon and
3 binder having a porosity of about 10-120 microns.

1 11. A filter assembly as recited in claim 1 wherein said siphon shield and mounting
2 element are integral and made of rigid plastic; and wherein said filter element is covered
3 by an apertured decorative plastic housing; and wherein said mounting element makes a
4 friction fit with said decorative housing so that said shield is removable from said
5 decorative housing.

1 12. A filter assembly as recited in claim 1 wherein said mounting element
2 comprises a mounting ring, and wherein said siphon space is substantially annular; and

3 wherein said substantially annular siphon space extends at least about 90% of the
4 effective filtering length of said filter element.

1 ~~13.~~ ⁴ A filter assembly as recited in claim 1 wherein said filter element is bare and
2 said shield forms a substantially annular space between said shield and said bare filter
3 element.

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1 14. A filter assembly comprising:
2 a primarily radial flow filter element comprising a substantially prismatic or cylindrical
3 body of filtering material having a first end through which filtered water flows, and a second
4 end opposite said first end;
5 a substantially tubular substantially solid wall shield having cross-sectional interior
6 dimensions greater than the exterior cross sectional dimensions of said filter element;
7 a mounting element which mounts said shield around said filter element so that
8 there is a space between said filter element and said siphon shield;
9 a cap for closing the open end of a bottle, said cap having a manual valve
10 associated therewith;
11 said filter element first end operatively connected to said cap; and
12 wherein said mounting element mounts said shield adjacent said second end of
13 said filter element so that water can substantially only flow into said space from adjacent
14 said first end of said filter element, and wherein said space is readily accessible to water
15 adjacent said cap.

1 15. A filter assembly as recited in claim 14 wherein said mounting element
2 comprises a mounting ring, and wherein said space is a substantially annular siphon
3 space.

1 16. A filter assembly as recited in claim 15 wherein said substantially annular
2 siphon space extends at least about 90% of the effective filtering length of said filter
3 element.

1 17. A filter assembly as recited in claim 14 wherein said siphon shield comprises a
 2 substantially circular cross-section substantially solid wall plastic tube, and wherein said
 3 filter element is substantially cylindrical; and wherein said siphon space is substantially
 4 annular and has substantially uniform dimensions.

1 18. A filter assembly as recited in claim 15 wherein said mounting ring has a friction
 2 fit with said filter element or a decorative housing thereof, so that said shield may be
 3 readily removed therefrom.

1 19. A filter assembly comprising:

2 a primarily radial flow filter element comprising a substantially prismatic or cylindrical
 3 body of filtering material having a first end through which filtered water flows, and a second
 4 end opposite said first end;

5 a substantially tubular shield having cross-sectional interior dimensions greater than
 6 the exterior cross sectional dimensions of said filter element;

7 a mounting element which mounts said shield around said filter element so that
 8 there is a siphon space between said filter element and said shield;

9 a drinking straw;

10 said filter element first end operatively connected to said drinking straw; and

11 wherein said mounting element mounts said shield adjacent said first end of said
 12 filter element so that water can substantially only flow into said siphon space from adjacent
 13 said second end of said filter element, and wherein said space is readily accessible to
 14 water adjacent a bottom of a bottle in which said filter element and a portion of said
 15 drinking straw are disposed.

1 20. A filter assembly as recited in claim 19 wherein said filter element extends
 2 axially outwardly from said shield adjacent said second end of said filter element and
 3 wherein said mounting element comprises a mounting ring, and wherein said space is
 4 substantially annular.

1 21. A filter assembly as recited in claim 20 wherein said substantially annular space
 2 extends at least about 80% of the length of said filter element from said first end to said
 3 second end thereof, and comprises a siphon space.

AB 1 22. A filter assembly as recited in claim 20 wherein said siphon shield ^{consists essentially of} comprises a
 B 2 substantially ^a circular cross-section substantially solid wall plastic tube, and wherein said
 3 filter element is substantially cylindrical; and wherein said space is substantially annular
 4 and has substantially uniform dimensions.

1 23. A filter assembly as recited in claim 20 wherein said mounting ring has a friction
 2 fit with said filter element or a decorative housing thereof, so that said shield may be
 3 readily removed therefrom.

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